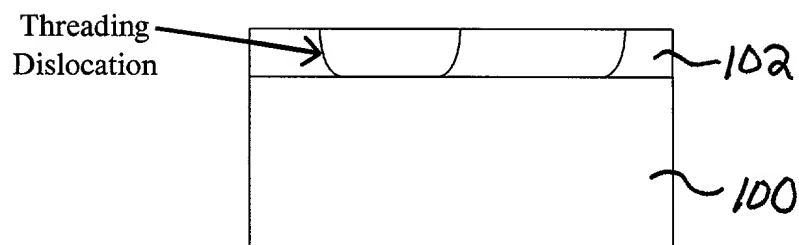


Figure 1A



1. Deposit lattice mismatched layer at low T

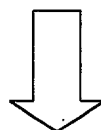
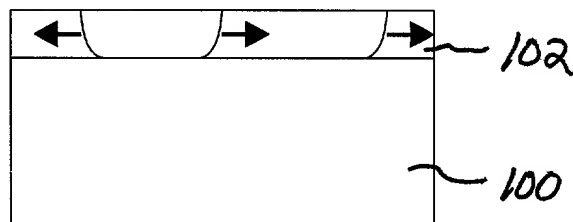
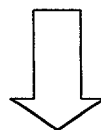


Figure 1B

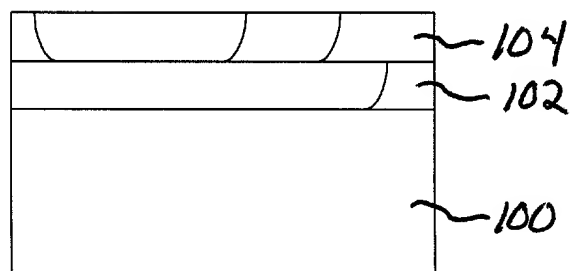


2. Anneal at high T to increase dislocation flow and reduce dislocation density



4. Repeat anneal and deposition until desired structure is achieved

Figure 1C



3. Deposit subsequent layer with increased lattice mismatch at low T

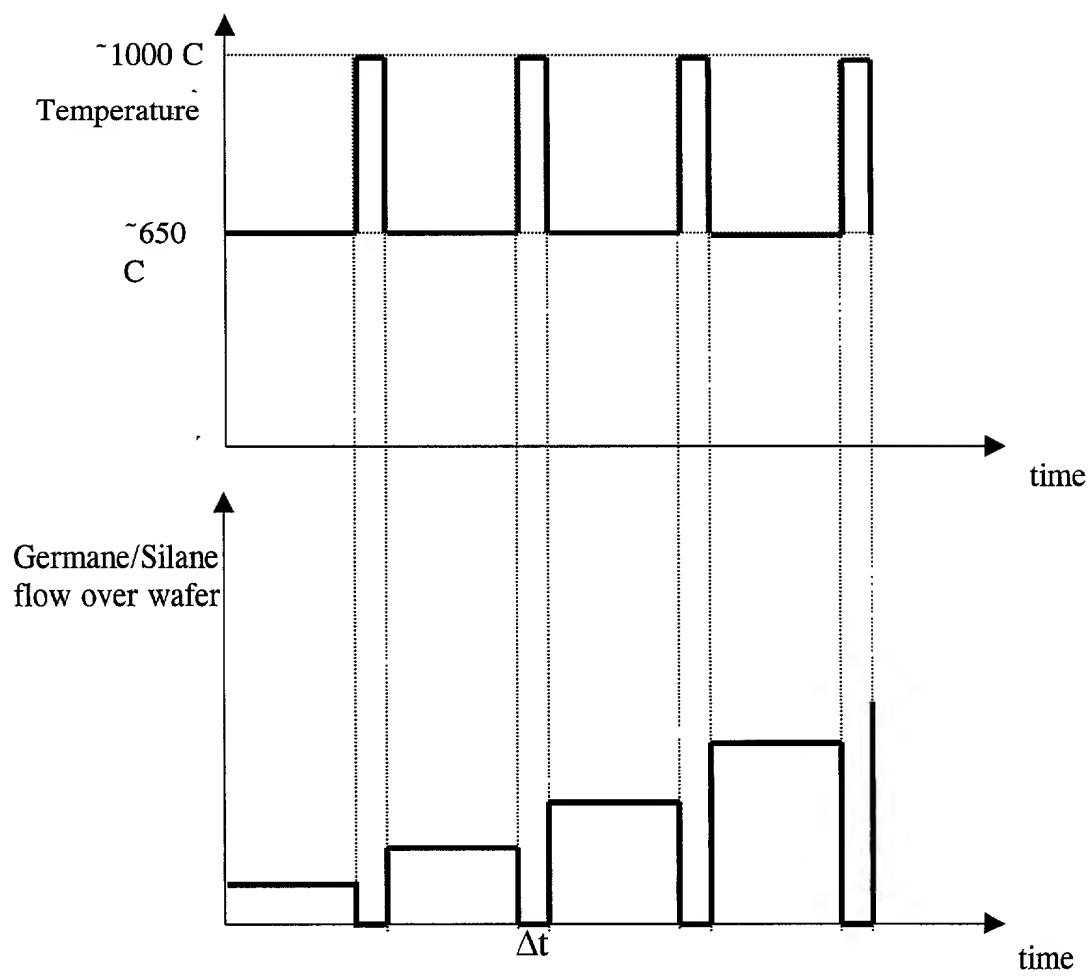


Figure 2

**Glide Kinetics Series (30% Ge): Field TDD vs.
Growth T**

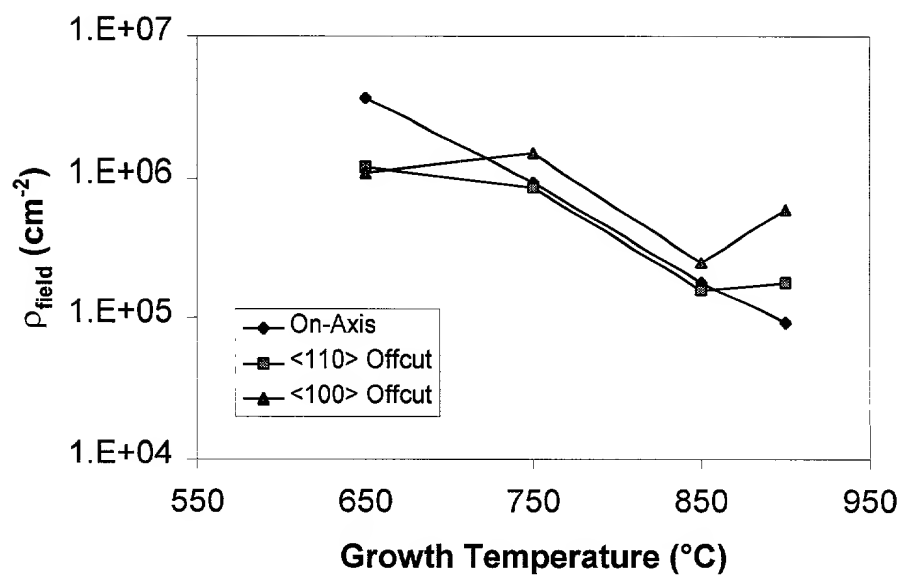


Figure 3

Change in Effective Strain to Fit Data

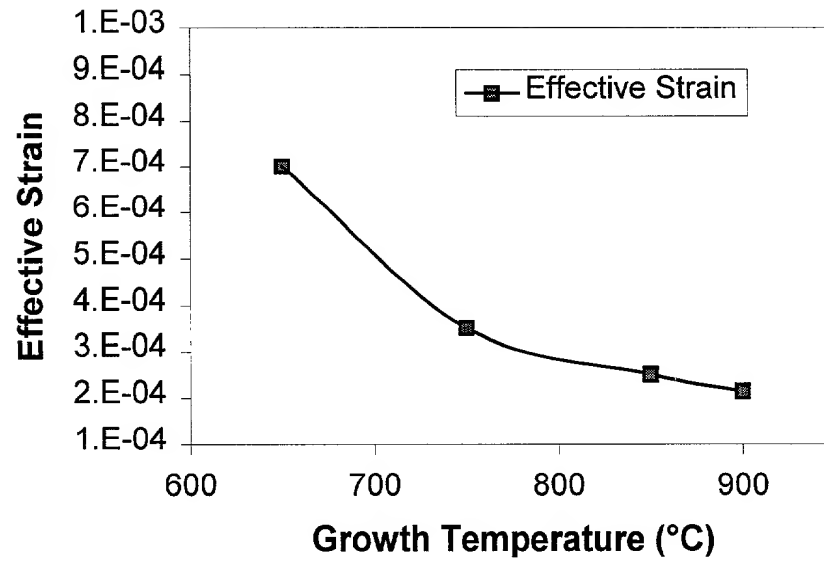


Figure 4

Sample	Total Threading Dislocation Density (#/cm ²)	Field Threading Dislocation Density (#/cm ²)
20% SiGe on Si with graded buffer as grown	1.36 x 10 ⁶	1.31 x 10 ⁶
20% SiGe on Si with graded buffer after a 5 min anneal at 1050°C	7.25 x 10 ⁵	5.48 x 10 ⁵

Figure 5